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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,740

02/01/2007

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EXAMINER

ENIN-OKUT, EDU E

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,740	Applicant(s) MASHIMO ET AL.	
	Examiner Edu E. Enin-Okut	Art Unit 1727	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2010 and 03 August 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 3 and 7-11 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 3 and 7-11 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

SEPARATOR FOR FUEL CELL AND SOLID POLYMER TYPE FUEL CELL

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 30, 2010 has been entered. Applicant has amended claim 3 and added claims 9-11. Claims 3 and 7-11 are pending.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 3 and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurano (JP 2002-050364; see JP Abstract and machine translation) in view of Maruyama et al. (US 6,610,435) and Kuroki et al. (US 2003/0104262)

Regarding claims 3 and 9, Kurano teaches a fuel cell separator (Title) including: a separator main body that includes a gas channel, a manifold that penetrates the separator main body in a fuel cell stacking direction, a groove that connects the gas channel to the manifold, and concave portions in the main body (Drawings 1-3; Claim 1); a plate member that covers an opening of the groove (Drawings 2-3; Claim 1); and, a gasket that is made of an elastic material, prevents gas leakage from the manifold to the outside, and is formed in a region on the surfaces

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of the separator main body and the plate member, the region surrounding the manifold (machine translation, para. 6,7,16; Drawings 2-3; Claim 1).

Kurano does not expressly teach a power generating device interposed between the fuel cell separator and another fuel cell separator, with the power generating device having an electrolyte film and electrode films; or, plate member notches or through holes and corresponding elastic gasket material filling the notches or through holes; or, that the separator body has concave portions, corresponding to the notches or through holes, with part of the elastic material filling the concave portions.

As to the power generating device, Maruyama teaches a fuel cell where a gasket covers a portion of the solid polymer electrolyte membrane with a plurality of separators separating the electrode units; thus, stacking the electrode units and separators to form a fuel cell (Abstract).

It would have been obvious to one of ordinary skill in the art at the time of invention to interpose a power generating element between separators of Kurano because Kurano teaches that its separator is for use in fuel cells (see also Kurano, machine translation, para. 6, Claim 1); and, Maruyama teaches that a fuel cell can be produced by placing an electrode unit between separators (see also Maruyama, Abstract).

As to plate member notches and through holes, the corresponding elastic gasket material filling those notches and through holes, and a separator with concave portions also filled with the elastic gasket material, Kurano does teach an injection molding process of the gasket and the level difference space as shown in Drawing 3 (machine translation, para. 9,10,22; Drawing 3). Further, Kuroki teaches a fuel cell with separator-gasket structure, where a plate member includes a through hole, with the elastic gasket (rubber) permeating through the through hole and to the other side of the plate (Abstract; para. 44; Fig. 7). As shown in Figs. 3,

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5 and 7, a portion of the gasket material fills a concave portion formed in the body of its separator (para. 92-96, 110, 120, 131; Figs. 3, 5, 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include a through hole in the plate member used in separator of modified Kurano, and include a concave portion on its main body of the separator corresponding to the through hole, where the through hole and concave portions are filled by an elastic gasket material, as described by Kuroki because Kuroki teaches that the through hole and concave portions can be employed in a means of fixing which does not require bonding, as the gasket is fixed through the through hole (see also Kuroki, para. 44).

As to the limitations with respect to how the separator and its components function, these limitation has been considered, and construed as adding no additional structure to the separator as claimed. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). See MPEP 2114. However, because the separator of modified Kurano is structurally similar to that instantly claimed, it appears capable of functioning with similar if not identical characteristics.

Regarding claims 7 and 8, modified Kurano also teaches that the diameter of the through hole is smaller than the portion of the gasket filled outside of the through hole (see Kuroki, Fig. 7).

Regarding claims 10 and 11, although modified Kurano does not expressly teach that the through hole is in the middle of the plate member, it would have been obvious to one of ordinary skill in the art at the time of the invention to place the through hole in the plate member used in the separator of modified Kurano in the center of that member since it has been held

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that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950). See MPEP 2144.04 (VI).

Response to Arguments

5. Applicant's arguments filed on June 30, 2010 have been fully considered but they are not persuasive. In sum, applicant argues the following in its remarks:

(a) Kurano, Maruyama and Kuroki do not teach that "part of the elastic material also fill the concave portions" (p. 4); and,

(b) "... the structure arrived by using Kuroki as the basic structure and applying the contents as taught in Kuroki to such basic structure, would be confined to the structure where the through-hole is provided in the separator to strengthen the bonding power between the gasket and the separator. It is not understood where in Kuroki or any other references is it suggested or taught not only to strengthen the bonding power of the gasket itself to the separator, ... Even if Kurano, Maruyama, and Kuroki are combined, they do not teach these features of the present invention. ..." (p. 5-6).

In response to applicant arguments, please consider the following comments:

(a) Applicant is directed to the rejections of the claims as presented above.

(b) First, in response to applicant's arguments against the Kuroki reference individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Second, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Third, in response to applicant's argument that the references fail to show certain features of applicant's invention (i.e., the

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“bonding power” of the present invention as discussed on p. 5 of its remarks), it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Finally, applicant is directed to the rejection of the claims as presented above.

6. As to the remainder of applicant’s arguments, they have been considered, but applicant has amended the claims such that new grounds of rejection were necessitated.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Edu E. Enin-Okut** whose telephone number is **571-270-3075**. The examiner can normally be reached on Monday through Thursday, 7 am to 3 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Barbara Gilliam can be reached on 571-272-1330. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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